

**WHAT IS CLAIMED IS:**

- 1        1. A process of removing holefill residue from a surface of an electronic substrate  
2        comprising contacting holefill residue with a swelling agent and planarizing said surface of  
3        said substrate contacted with said swelling agent.
  
- 1        2. A process in accordance with Claim 1 wherein said surface is metallic or  
2        dielectric.
  
- 1        3. A process in accordance with Claim 2 wherein said surface is metallic.
  
- 1        4. A process in accordance with Claim 3 wherein said surface is copper.
  
- 1        5. A process in accordance with Claim 1 wherein said swelling agent is a polar  
2        organic solvent.
  
- 1        6. A process in accordance with Claim 5 wherein said polar organic solvent is an  
2        aprotic solvent.
  
- 1        7. A process in accordance with Claim 6 wherein said aprotic solvent is selected  
2        from the group consisting of di(ethylene glycol) butyl ether, N-methyl pyrrolidine and  
3        dimethyl formamide.
  
- 1        8. A process in accordance with Claim 1 including the step of contacting said holefill  
2        residue, subsequent to contact with said swelling agent, with an oxidizing agent.
  
- 1        9. A process in accordance with Claim 8 wherein said oxidizing agent is an  
2        oxyanion.

1           10. A process in accordance with Claim 9 herein said oxyanion is selected from the  
2 group consisting of a permanganate salt and a chromate salt.

1           11. A process in accordance with Claim 1 wherein said mechanical planarizing step  
2 is conducted in the presence of a liquid agent having a pH in the range of between about 6  
3 and about 8.

1           12. A process in accordance with Claim 11 wherein said liquid is water.

1           13. A process in accordance with Claim 1 wherein said planarizing step occurs by  
2 mechanical means.

1           14. A process in accordance with Claim 13 wherein said mechanical planarizing step  
2 utilizes a mechanical planarizing head.

1           15. A process in accordance with Claim 13 wherein said mechanical planarizing step  
2 is conducted in the absence of any lubricating agent.

1           16. A process in accordance with Claim 1 wherein said planarizing step occurs by  
2 means of a high pressure water spray.

1           17. A process in accordance with Claim 16 wherein said high pressure spray includes  
2 abrasive particles.